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**UTILITY  
PATENT APPLICATION  
TRANSMITTAL**

(Only for new nonprovisional applications under 37 C.F.R. § 1.53(b))

Attorney Docket No.	PA 30573
First Inventor or Application Identifier	Hans-Peter Wild et al
Title	APPARATUS FOR APPLYING DRINKING STRAWS
Express Mail Label No.	EL334183045US

<b>APPLICATION ELEMENTS</b> See MPEP chapter 600 concerning utility patent application contents.		<b>ADDRESS TO:</b> Assistant Commissioner for Patents Box Patent Application Washington, DC 20231	
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2. <input checked="" type="checkbox"/> Specification (Total Pages <u>7</u> ) (preferred arrangement set forth below) - Descriptive title of the invention - Cross References to Related Applications - Statement Regarding Fed sponsored R & D - Reference to Microfiche Appendix - Background of the invention - Brief Summary of the invention - Brief Description of the Drawings (if filed) - Detailed Description - Claim(s) - Abstract of the Disclosure		7. Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary) a. <input type="checkbox"/> Computer Readable Copy b. <input type="checkbox"/> Paper Copy (identical to computer copy) c. <input type="checkbox"/> Statement verifying identity of above copies	
3. <input checked="" type="checkbox"/> Drawing(s) (35 U.S.C. 113) (Total Sheets <u>2</u> )		<b>ACCOMPANYING APPLICATION PARTS</b>	
4. Oath or Declaration In Blank (Total Pages <u>4</u> ) a. <input type="checkbox"/> Newly executed (original or copy) b. <input type="checkbox"/> Copy from a prior application (37 C.F.R. § 1.63(d)) (for continuation/divisional with Box 17 completed) (Note Box 8 below) i. <input type="checkbox"/> <b>DELETION OF INVENTOR(S)</b> Signed statement attached deleting inventor(s) named in the prior application, see 37 C.F.R. §§ 1.63(d)(2) and 1.33(b).		8. <input type="checkbox"/> Assignment Papers (cover sheet & document(s)) 9. <input type="checkbox"/> 37 C.F.R. §3.73(b) Statement (when there is an assignee) <input type="checkbox"/> Power of Attorney 10. <input type="checkbox"/> English Translation Document (if applicable) 11. <input type="checkbox"/> Information Disclosure Statement (IDS)/PTO-1449 <input type="checkbox"/> Copies of IDS Citations 12. <input checked="" type="checkbox"/> Preliminary Amendment 13. <input checked="" type="checkbox"/> Return Receipt Postcard (MPEP 503) (Should be specifically itemized) * Small Entity Statement(s) <input type="checkbox"/> Statement filed in prior application, Status still proper and desired (PTO/SB-09-12) 15. <input type="checkbox"/> Certified Copy of Priority Document(s) (if foreign priority is claimed) 16. <input checked="" type="checkbox"/> Other: General Authorization... Claim to Priority.....	
5. <input type="checkbox"/> Incorporation By Reference (useable if Box 4b is checked) The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 4b, is considered to be part of the disclosure of the accompanying application and is hereby incorporated by reference therein.		<b>NOTE FOR ITEMS 1 &amp; 14: IN ORDER TO BE ENTITLED TO PAY SMALL ENTITY FEE, A SMALL ENTITY STATEMENT IS REQUIRED (37 C.F.R. § 1.27), EXCEPT IF ONE FILED IN A PRIOR APPLICATION IS RELIED UPON (37 C.F.R. § 1.29).</b>	
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Signature	<i>Richard B. Hoffman</i>	Date	Oct. 17, 2000

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Marie Lentz

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## Complete if Known

Application Number  
Filing Date  
First Named Inventor Hans-Peter Wild et al  
Examiner Name  
Group / Art Unit  
Attorney Docket No. PA 30573

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106 330	206 165	Design filing fee	
107 540	207 270	Plant filing fee	
108 790	208 395	Reissue filing fee	
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### 2. EXTRA CLAIM FEES

Total Claims	Extra Claims	Fee from below	Fee Paid
4	0	18	
1	0	80	
Multiple Dependent			270

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Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description
103 22x	203 11	Claims in excess of 20
102 82x	202 41	Independent claims in excess of 4
104 270	204 136	Multiple dependent claim, if not paid
109 82	209 41	** Reissue independent claims over original patent
110 22	210 11	** Reissue claims in excess of 20 and over original patent
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105 130	205 65	Surcharge - late filing fee or oath	
127 50	227 25	Surcharge - late provisional filing fee or cover sheet	
139 130	139 130	Non-English specification	
147 2,520	147 2,520	For filing a request for reexamination	
112 920*	112 920*	Requesting publication of SR prior to Examiner action	
113 1,840*	113 1,840*	Requesting publication of SR after Examiner action	
116 110	216 55	Extension for reply within first month	
116 400	216 200	Extension for reply within second month	
117 600	217 475	Extension for reply within third month	
118 1,510	218 755	Extension for reply within fourth month	
126 2,080	226 1,030	Extension for reply within fifth month	
119 310	219 155	Notice of Appeal	
120 310	220 155	Filing a brief in support of an appeal	
121 270	221 135	Request for oral hearing	
136 1,510	136 1,510	Petition to institute a public use proceeding	
140 110	240 55	Petition to revive - unavoidable	
141 1,320	241 660	Petition to revive - unintentional	
142 1,320	242 660	Utility issue fee (or release)	
143 480	243 225	Design issue fee	
144 670	244 335	Plant issue fee	
122 130	122 130	Petitions to the Commissioner	
123 50	123 50	Petitions related to provisional applications	
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581 40	581 40	Recording each patent assignment per property (times number of properties)	
146 790	246 395	Filing a submission after final rejection (37 CFR 1.129(a))	
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## SUBMITTED BY

Typed or Printed Name Richard B. Hoffman

Signature *Richard B. Hoffman*

Date Oct. 17, 2000

## Complete if applicable

Reg. Number 26,910

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Title:	APPARATUS FOR APPLYING	)	and is addressed to the Commissioner of Patents
	DRINKING STRAWS	)	and Trademarks, Washington, D.C. 20231
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PRELIMINARY AMENDMENT

Hon. Commissioner of Patents  
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Washington, D.C. 20231

Sir:

In connection with the subject patent application,  
please enter the following amendment.

IN THE SPECIFICATION:

Page 1, after the title, please add a centered heading  
as follows: --Field of the Invention--;

Page 1, at first paragraph, please delete remainder of  
sentence starting at the word "of" and insert --to bags.--

Page 1, after the first full paragraph, please insert a  
new centered heading as follows: --Background of the  
Invention--.

Page 2, at end of carryover paragraph from page 1,  
please add a new centered heading as follows: --Summary of the  
Invention--;

Page 2, line 3, please delete "said" and insert  
--the--;

Page 2, please delete the entire third and fifth paragraphs;

Page 2, after the deleted fifth paragraph, please insert a new centered heading as follows: --Brief Description of the Drawings--.

At top of page 3, please insert a new centered heading as follows: --Detailed Description of the Preferred Embodiment--;

Page 3, line 7, please delete "rotatingly" and insert --rotatably--.

IN THE CLAIMS:

At line 1, delete "Patent Claims", and substitute --We Claim:--.

Please amend the claims as follows:

1 (Amended). [An] In an apparatus for applying a drinking straw to a receiving surface of a stand up bag which can be supplied on a conveying surface to a transfer means for drinking straws, [characterized in] the improvement comprising that [the] said transfer means (5) is arranged such that the drinking straw (2) while being handed over encloses an acute angle ( $\alpha$ ) with the conveying surface (4a).

2 (Amended). The apparatus according to claim 1, [characterized in that the] wherein said angle ( $\alpha$ ) corresponds to the inclination of [the] said receiving surface (3a) on the stand up bag (3) relative to [the] said conveying surface (4a).

3 (Amended). The apparatus according to claim 1 or 2, [characterized in that] wherein the stand up bag (3) lies on the

conveying surface (4a) with an outer surface opposite to [the] said receiving surface (3a) and [the] said angle ( $\alpha$ ) corresponds to the angle of enclosure which is enclosed by [the] said receiving surface (3a) of the stand up bag (3) with the opposite outer surface of the stand up bag (3).

4 (Amended). The apparatus according to [any one of] claim[s] 1 [to 3, characterized in that the] wherein said transfer [device contains] means comprises a transfer drum (6) which is rotatable about a central axis (6a) which is inclined by [the] said angle ( $\alpha$ ) and on the periphery of which the drinking straws (2) can be supplied.

IN THE ABSTRACT:

Please amend the Abstract as follows:

[Described is an apparatus] Apparatus for applying a drinking straw on a receiving surface of a stand up bag which can be supplied on a conveying surface to a transfer device for drinking straws. To increase the conveying speed of said apparatus, the transfer means [should be] is arranged such that the drinking straw while being handed over encloses an acute angle with the conveying surface.

REMARKS

The claims have now been reviewed and amended for clarification, and to conform to U.S. practice. The specification has been given headings, and the Abstract has been revised. No new matter has been added.

It is respectfully submitted the application as amended above is now in condition for substantive examination on the

merits. If any claim or other fees are due by this Amendment,  
please charge our deposit account No. 20-1111.

Respectfully submitted,

Hans-Peter Wild et al, Applicants

Date: Oct. 17, 2000

By



Richard B. Hoffman,

Reg. No. 26,910

Attorney for Applicants

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100 South Wacker Drive, Suite 960  
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Application for  
United States Letters Patent  
APPARATUS FOR APPLYING DRINKING STRAWS

Inventors  
Hans-Peter Wild  
Eberhard Kraft

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## **Apparatus for Applying Drinking Straws**

The present invention relates to an apparatus for applying drinking straws of the type explained in the preamble of claim 1.

Such an apparatus is known from DE 197 45 855. The known apparatus uses a transfer device in the form of a rotary drum on the periphery of which a drinking straw strip is supplied that consists of still cohering packages of individually packed drinking straws. Furthermore, the drinking straw strip contains adhesive points already applied before, which are covered with a cover strip for the time being. Shortly before being applied to the stand up bag the cover strip is removed from the adhesive points and the drinking straw packages are isolated, preferably cut, so that a respective drinking straw can then be adhesively applied by the roller, supported by a press-on finger, to each bag. The known apparatus is designed for applying drinking straws to stand up bags conveyed in an upright manner on a conveyor belt, the transfer means enclosing a right angle with the conveyor surface.

EP 149 076 B1 describes a further apparatus for applying drinking straws which is designed for applying drinking straws to lying bags. The transfer device for the drinking straws extends here in parallel with the conveying surface on which the bags are located.

Stand up bags, however, have no parallel side surfaces but consist of two rectangular film pieces which are secured along their longitudinal edges one on top of the other and which in the area of their lower transverse edges have an inserted or molded-on stand up bag and in the area of their upper transverse edges are indirectly welded one on top of the other, resulting in a substantially triangular longitudinal section. Both in the case of an upright transportation and a lying transportation the attachment surfaces on the bag are thus not in parallel with the conveying surface and thus also not in parallel with the



transfer device for the drinking straws. Normally, this is not objectionable, as becomes also apparent from the well-functioning devices of the prior art.

The invention, however, has found out that the handling speeds in said vertical or parallel arrangement of the transfer device relative to the conveying surface can still be optimized.

It is thus the object of the present invention to improve an apparatus for applying drinking straws to stand up bags in such a manner that their conveying speed is increased.

Said object is achieved by the features indicated in claim 1.

Thanks to the design according to the invention the movement path of the drinking straws can be shortened and the drinking straws can be moved in a parallel movement without any angular change from the transfer device to the bag. Although the increase in speed achieved thereby is within the range of fractions of seconds, even such a small increase in speed effects an economic result in a mass product such as a stand up bag and with the high throughputs achieved by modern bag filling and packaging systems.

Advantageous developments of the invention can be gathered from the sub-claims.

An embodiment of the present invention shall now be explained with reference to the drawings, in which:

Fig. 1 is a schematic side view of an apparatus according to the invention; and

Fig. 2 is a schematic view showing details of the apparatus according to Fig. 1.

Figs. 1 and 2 shows an apparatus 1 for applying drinking straws 2 to a receiving surface 3a of stand up bags 3. The stand up bags are transported in a lying position on a horizontal conveyor belt 4 in a direction perpendicular to the illustration in Fig. 1, the upper side of the horizontal conveyor 4 forming a substantially horizontal conveyor surface 4a.

The apparatus 1 contains a transfer means 5 which comprises a transfer drum 6 which is rotatingly driven by a motor 7 about a rotational axis 6a. The transfer drum 6 is provided on its periphery with recesses 8 which can each receive one of the drinking straws 2. The drinking straws 2 are individually sealed in packages 9a which before reaching a cutting device 10 are still cohering in a continuous drinking straw strip 9. The packages 9a are already provided with adhesive points which are protectively covered by a cover strip 11. The drinking straw strip 9 is supplied by supply devices (not shown), it is pressed by a press-on roll 12 against the transfer drum 6 while the cover strip 11 is removed via a roll 13 which is driven in synchronism with the transfer drum 6 by the motor 7. The transfer drum 6 has assigned thereto a transfer finger 14 which is movable around a pivot arm 15 in the direction of the double-headed arrow and presses the packages 9a, which have been isolated by the cutting device 10, together with the drinking straw 2 onto the receiving surface 3a of the bags which have been supplied in a lying position on the conveyor 4, whereby the adhesive points can adhere.

The rotational axis 6a of the transfer drum 6 is inclined by an angle  $\alpha$  relative to the conveying surface 4a. The angle  $\alpha$  is smaller than  $90^\circ$  and preferably corresponds to the angle  $\alpha$  under which the receiving surface 3a is inclined relative to the conveying surface 4a when the stand up bag 3 is transported in a lying position on the conveying surface 4a. Furthermore, said angle  $\alpha$  corresponds to the angle enclosed by the receiving surface with the opposite surface of the bag 3 which rests on the conveying surface 4a. Since stand up bags which are filled with beverages cannot exactly keep their shape

because most of the time they consist of plastic films or laminated aluminum foils, angle  $\alpha$  can also be determined as a mean value.

During operation the stand up bags 3 are supplied in a continuous row on the conveyor 4 to the transfer device 5, the transfer drum 6 is rotated in synchronism with the conveyor speed of the conveyor 4 about the axis 6a, the drinking straw strip 9 is fed continuously, the cover strip 11 is continuously removed, the individual packages 9a are cyclically isolated by the cutting device from the drinking straw strip 9 and cyclically pressed by the press-on finger 14 onto the receiving surface 3a of the stand up bags. For retaining the already isolated drinking straw packages 9a the transfer drum 6 can be designed as a suction drum. Two adjacent transfer drums can also be used that have a distance from each other which enables the finger 14 to operate between the drums so that an even better support of the isolated drinking straw packages 9 is achieved.

On account of the inclined position of the rotational axis 6a relative to the conveyor surface 4a, the drinking straw package 9a impinges on said receiving surface 3a exactly in parallel with said surface 3a, i.e. it need not carry out a displacing and tilting movement as has so far been necessary. The conveying movement can thereby be further accelerated.

In a modification of the described and illustrated embodiment, the apparatus according to the invention can also be used for applying drinking straws to stand up bags conveyed in an upright position; in this case, however, the angle of inclination must be adjusted to the larger acute angle which is enclosed by the receiving surface relative to the conveying surface and which is approximately  $90^\circ$  minus half the angle of enclosure between the receiving surface and the opposite surface on the stand up bag.

In a further modification of the described and illustrated embodiment, it is also possible to use other transfer means which are capable of applying drinking straws very rapidly. Furthermore, it is not absolutely necessary that all of the components of the devices are inclined. It is enough when the drinking straw has such an angle while being handed over.

100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

### Patent Claims

1. An apparatus for applying a drinking straw to a receiving surface of a stand up bag which can be supplied on a conveying surface to a transfer means for drinking straws, **characterized in** that the transfer means (5) is arranged such that the drinking straw (2) while being handed over encloses an acute angle ( $\alpha$ ) with the conveying surface (4a).
2. The apparatus according to claim 1, **characterized in** that the angle ( $\alpha$ ) corresponds to the inclination of the receiving surface (3a) on the stand up bag (3) relative to the conveying surface (4a).
3. The apparatus according to claim 1 or 2, **characterized in** that the stand up bag (3) lies on the conveying surface (4a) with an outer surface opposite to the receiving surface (3a) and the angle ( $\alpha$ ) corresponds to the angle of enclosure which is enclosed by the receiving surface (3a) of the stand up bag (3) with the opposite outer surface of the stand up bag (3).
4. The apparatus according to any one of claims 1 to 3, **characterized in** that the transfer device contains a transfer drum (6) which is rotatable about a central axis (6a) which is inclined by the angle ( $\alpha$ ) and on the periphery of which the drinking straws (2) can be supplied.

### **Abstract**

Described is an apparatus for applying a drinking straw on a receiving surface of a stand up bag which can be supplied on a conveying surface to a transfer device for drinking straws. To increase the conveying speed of said apparatus, the transfer means should be arranged such the drinking straw while being handed over encloses an acute angle with the conveying surface.

1/2

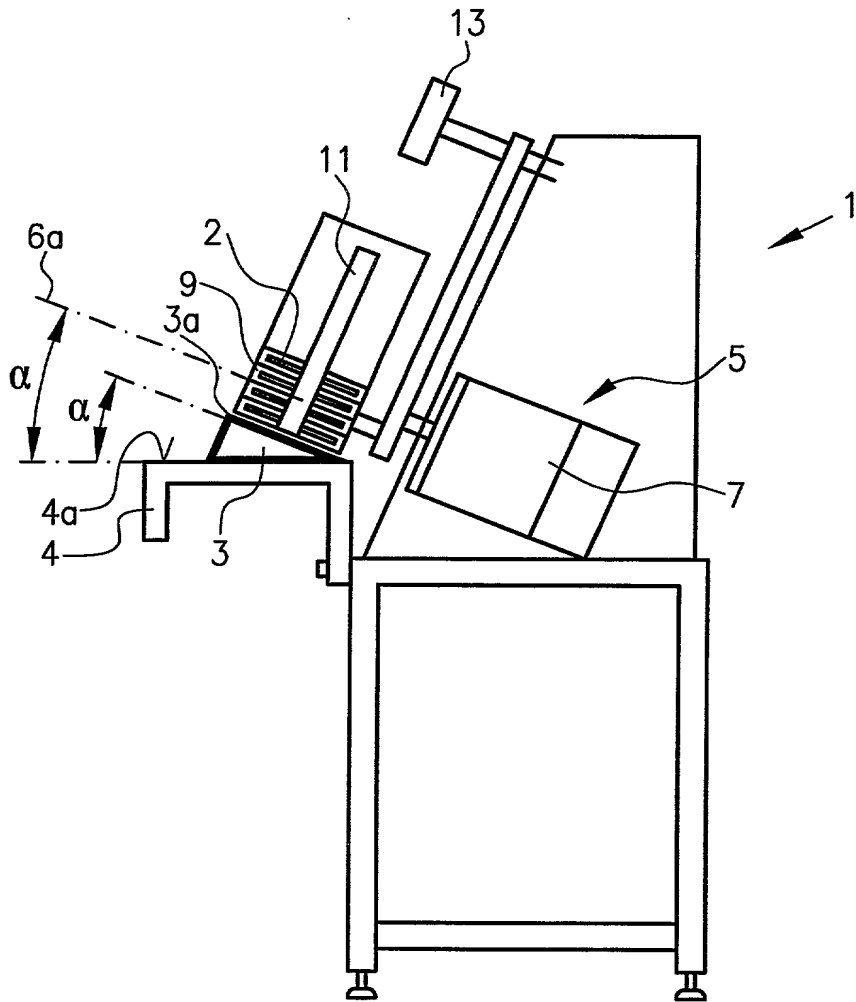


FIG. 1





[illegible]

**DECLARATION AND POWER OF ATTORNEY**

As below named inventor, I hereby declare that my residence, post office and address and citizenship are as stated below next to my name; I believe that I am the original and first inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled:

# APPARATUS FOR APPLYING DRINKING STRAWS

the specification of which:

X           is attached hereto  
\_\_\_\_\_ was filed on \_\_\_\_\_  
Application Serial No. \_\_\_\_\_  
and was amended on \_\_\_\_\_  
                                (if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification filed herewith, including the claims, as amended by any amendment(s) referred to above. I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a). I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

<u>Number</u>	<u>Country</u>	<u>Date Filed</u>	<u>Priority Claimed</u>
199 52 008.9	Germany	October 28, 1999	<u>X</u> YES <u>  </u> NO

I hereby appoint as my attorney, with full powers of substitution and revocation, to prosecute this application and transact all business in the Patent and Trademark Office connected therewith:

John B. Lungmus (Reg. No. 18,566), John W. Chestnut (Reg. No. 24,096), Richard B. Hoffman (Reg. No. 26,910), and Jeremy R. Kriegel (Reg. No. 39,257), all of 100 South Wacker Drive, Suite 960, Chicago, Illinois 60606.

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

DATE: \_\_\_\_\_

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## §1.56 Duty to Disclose Information Material to Patentability

(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to consideration, or the application becomes abandoned. Information material to the patentability of a claim that is canceled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

- (1) prior art cited in search reports of a foreign patent office in a counterpart application, and
  - (2) the closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentability defines, to make sure that any material information contained therein is disclosed to the Office.
- (b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and
- (1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or
  - (2) It refutes, or is inconsistent with, a position the applicant takes in:
    - (i) Opposing an argument of unpatentability relied on by the Office, or
    - (ii) Asserting an argument of patentability.

A prima facie case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.

- (c) Individuals associated with the filing or prosecution of a patent application within the meaning of this specification are:
  - (1) Each inventor named in the application;
  - (2) Each attorney or agent who prepares or prosecutes the application; and
  - (3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application.
- (d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor.